



# Volunteer Lake Assessment Program Individual Lake Reports

## NORWAY POND, HANCOCK, NH

### MORPHOMETRIC DATA

Watershed Area (Ac.):	4,546	Max. Depth (m):	5.5	Flushing Rate (yr <sup>-1</sup> )	19.2	Year	Trophic class	KNOWN EXOTIC SPECIES
Surface Area (Ac.):	49	Mean Depth (m):	2.5	P Retention Coef:	0.36	1980	MESOTROPHIC	
Shore Length (m):	1,900	Volume (m <sup>3</sup> ):	509,000	Elevation (ft):	825	1995	MESOTROPHIC	

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

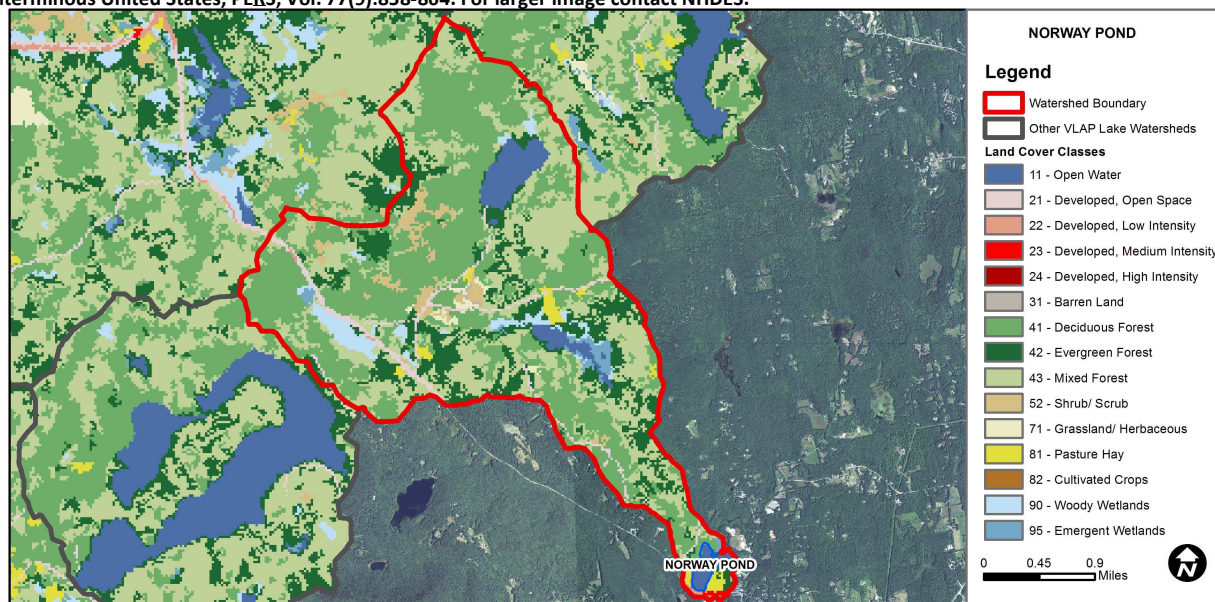
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Cautionary	< 10 samples and 1 exceedance of criteria. More data needed.
	Chlorophyll-a	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Good	Geometric means < criteria; however at least 1 exceedance of the single sample criteria occurred.
	Chlorophyll-a	Good	At least 10 samples with 1 sample but < 10% of samples exceeding criteria.

### BEACH PRIMARY CONTACT ASSESSMENT STATUS

NORWAY POND - TOWN BEACH	E. coli	Bad	>=1 exceedance(s) of geometric mean criterion and/or >=2 exceedances of single sample criterion, with 1 or more >2X criteria.
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### WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	4.45	Barren Land	0.09	Grassland/Herbaceous	0.57
Developed-Open Space	2.64	Deciduous Forest	41.28	Pasture Hay	1.25
Developed-Low Intensity	0.24	Evergreen Forest	14.54	Cultivated Crops	0
Developed-Medium Intensity	0.11	Mixed Forest	28.54	Woody Wetlands	2.65
Developed-High Intensity	0	Shrub-Scrub	2.55	Emergent Wetlands	1.05





# VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

## NORWAY POND, HANCOCK, NH

### 2012 DATA SUMMARY

#### OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphic)

- ♣ **CHLOROPHYLL-A:** Chlorophyll levels were relatively stable throughout the summer and below the NH lake median. Ten consecutive years of data collection is necessary to conduct trend analysis.
- ♣ **CONDUCTIVITY/CHLORIDE:** Conductivity and chloride were low and approximately equal to the NH lake median.
- ♣ **E. COLI:** E. coli levels were well below state standards for public beaches and surface waters.
- ♣ **TOTAL PHOSPHORUS:** Epilimnetic (upper water layer) phosphorus levels were the lowest measured since 2006 and below the NH lake median. Phosphorus levels were average for the remaining stations. Ten consecutive years of data collection is necessary to conduct trend analysis.
- ♣ **TRANSPARENCY:** Transparency remained stable throughout the summer and was slightly greater than the NH lake median. Ten consecutive years of data collection is necessary to conduct trend analysis.
- ♣ **TURBIDITY:** Turbidity levels were low throughout the summer.
- ♣ **pH:** pH levels were slightly lower than desirable in the hypolimnion (lower water layer) and Outlet.
- ♣ **RECOMMENDED ACTIONS:** Maintain current monitoring program to assess summer water quality and eventually conduct water quality trend analyses. The Town Beach is currently sampled monthly by DES' Beach Inspection program; therefore it is not necessary to conduct E. coli sampling at the Town Beach. Keep up the great work!

Station Name	Table 1. 2012 Average Water Quality Data for NORWAY POND								
	Alk.	Chlor-a	Chloride	Cond.	E. Coli	Total P	Trans.	Turb.	pH
	mg/l	ug/l	mg/l	uS/cm	#/100ml	ug/l	m	ntu	
							NVS		
Deep Epilimnion	3.67	3.81	4	38.8		9	3.55	0.53	6.66
Deep Hypolimnion				40.6		13		1.01	6.23
Moose Brook				42.0	30	12		0.61	6.54
Outlet				40.3		16		0.62	6.37
Town Beach					5				

**NH Median Values:** Median values for specific parameters generated from historic lake monitoring data.

**Alkalinity:** 4.9 mg/L

**Chlorophyll-a:** 4.58 mg/m<sup>3</sup>

**Conductivity:** 40.0 uS/cm

**Chloride:** 4 mg/L

**Total Phosphorus:** 12 ug/L

**Transparency:** 3.2 m

**pH:** 6.6

**NH Water Quality Standards:** Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

**Chloride:** < 230 mg/L (chronic)

**E. coli:** > 88 cts/100 mL – public beach

**E. coli:** > 406 cts/100 mL – surface waters

**Turbidity:** > 10 NTU above natural level

**pH:** 6.5-8.0 (unless naturally occurring)

#### HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	N/A	Additional data necessary to conduct trend analysis
Transparency	N/A	Additional data necessary to conduct trend analysis
Phosphorus (epilimnion)	N/A	Additional data necessary to conduct trend analysis

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